

AMENDMENTS TO THE CLAIMS:

1 – 27 (Canceled)

28. (New) A high performance, chemical resistant thermoplastic hose capable of withstanding temperatures up to about 300° F, for prolonged periods of time, said high performance, chemical resistant thermoplastic hose having a matrix comprising a thermoplastic vulcanizate comprising:

1) a thermoplastic polyurethane in an amount of about 30 to 70 weight % of said thermoplastic vulcanizate;

2) a chlorine-containing polyolefin in the amount of about 70 to 30 weight % of said thermoplastic vulcanizate, wherein said chlorine-containing polyolefin is a mixture of two or more member selected from the group consisting of chlorinated polyethylene, chlorinated polypropylene, chlorinated copolymers of ethylene and propylene, chlorosulfonated polyethylene, chlorosulfonated polypropylene, and copolymers of chlorosulfonated ethylene and chlorosulfonated propylene, with the proviso that mixtures of chlorinated polyethylene and chlorosulfonated polyethylene; mixtures of chlorinated polyethylene, chlorinated polypropylene and chlorinated copolymers of ethylene and propylene; and mixtures of chlorosulfonated polyethylene, chlorosulfonated polypropylene; and chlorosulfonated copolymers of ethylene and propylene are excluded; and

3) a crosslinking agent,
wherein said high performance engineering thermoplastic polyurethane is crosslinked in said matrix.

29. (New) The high performance, chemical resistant thermoplastic hose of claim 28 wherein said chlorinated polyolefin is a mixture of chlorinated polyethylene and chlorinated polypropylene.

30. (New) The high performance, chemical resistant thermoplastic hose of claim 28 wherein said

chlorinated polyolefin is a mixture of chlorosulfonated polyethylene and chlorosulfonated polypropylene.

31. (New) The high performance, chemical resistant thermoplastic hose of claim 28 wherein said chlorinated polyolefin is a mixture of chlorinated polyethylene and chlorosulfonated polypropylene.

32. (New) The high performance, chemical resistant thermoplastic hose of claim 28 wherein said chlorinated polyolefin is chlorosulfonated polyethylene and chlorinated polypropylene.

33. (New) The high performance, chemical resistant thermoplastic hose of claim 28 wherein said chlorinated polyolefin is a mixture of chlorinated polyethylene and a chlorinated copolymer of ethylene and propylene.

34. (New) The high performance, chemical resistant thermoplastic hose of claim 28 wherein said chlorinated polyolefin is a mixture of chlorinated polypropylene and a chlorinated copolymer of ethylene and propylene.

35. (New) The high performance, chemical resistant thermoplastic hose of claim 28 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polyethylene and a chlorinated copolymer of ethylene and propylene.

36. (New) The high performance, chemical resistant thermoplastic hose of claim 31 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polypropylene and a chlorinated copolymer of ethylene and propylene.

37. (New) The high performance, chemical resistant thermoplastic hose of claim 31 wherein said chlorinated polyolefin is a mixture of chlorinated polyethylene and a chlorosulfonated copolymer of ethylene and propylene.

38. (New) The high performance, chemical resistant thermoplastic hose of claim 31 wherein said chlorinated polyolefin is a mixture of chlorinated polypropylene and a chlorosulfonated copolymer of ethylene and propylene.
39. (New) The high performance, chemical resistant thermoplastic hose of claim 31 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polyethylene and a chlorosulfonated copolymer of ethylene and propylene.
40. (New) The high performance, chemical resistant thermoplastic hose of claim 31 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polypropylene and a chlorosulfonated copolymer of ethylene and propylene.
41. (New) The high performance, chemical resistant thermoplastic hose of claim 31 wherein said thermoplastic polyurethane is crosslinked in said matrix by dynamic vulcanization during the manufacture of said hose.
42. (New) The high performance, chemical resistant thermoplastic hose of claim 31 wherein said crosslinking agent is selected from the group consisting of a peroxide, an isocyanate having a functionality of more than 2.0, a polyisocyanate having a functionality of more than 2.0, a polyamine containing two or more functional groups, a polyol containing two or more functional groups, and mixtures thereof.
43. (New) A method for manufacturing a high performance, chemical resistant thermoplastic hose capable of withstanding temperatures up to about 300° F, for prolonged periods of time, said high performance, chemical resistant thermoplastic hose having a matrix comprising a thermoplastic vulcanizate comprising:
- 1) a thermoplastic polyurethane in an amount of about 30 to 70 weight % of said thermoplastic vulcanizate;
 - 2) a chlorine-containing polyolefin in the amount of about 70 to 30 weight % of said

thermoplastic vulcanizate, wherein said chlorine-containing polyolefin is a mixture of two or more members selected from the group consisting of chlorinated polyethylene, chlorinated polypropylene, chlorinated copolymers of ethylene and propylene, chlorosulfonated polyethylene, chlorosulfonated polypropylene, and copolymers of chlorosulfonated ethylene and chlorosulfonated propylene, with the proviso that mixtures of chlorinated polyethylene and chlorosulfonated polyethylene; mixtures of chlorinated polyethylene, chlorinated polypropylene and chlorinated copolymers of ethylene and propylene; and mixtures of chlorosulfonated polyethylene, chlorosulfonated polypropylene; and chlorosulfonated copolymers of ethylene and propylene are excluded; and

3) a crosslinking agent,

said method comprising:

providing a thermoplastic vulcanizate, said thermoplastic vulcanizate comprising a high performance engineering thermoplastic polyurethane, a chlorine-containing polyolefin selected from the group consisting of chlorinated polyethylene, chlorinated polypropylene, chlorinated copolymers of ethylene and propylene, mixtures of chlorinated polyethylene, chlorinated polypropylene and chlorinated copolymers of ethylene and propylene, chlorosulfonated polyethylene, chlorosulfonated polypropylene, chlorosulfonated copolymers of ethylene and propylene, and mixtures of chlorosulfonated ethylene, chlorosulfonated propylene and chlorosulfonated copolymers of ethylene and propylene; and a crosslinking agent; and

extruding said thermoplastic vulcanizate through an extruder, wherein said thermoplastic polyurethane is crosslinked in said thermoplastic vulcanizate prior to or during extrusion of said thermoplastic vulcanizate to form a high performance chemical resistant hose.

44. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorinated polyethylene and chlorinated polypropylene.

45. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polyethylene and chlorosulfonated polypropylene.

46. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorinated polyethylene and chlorosulfonated polypropylene.
47. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polyethylene and chlorinated polypropylene.
48. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorinated polyethylene and a chlorinated copolymer of ethylene and propylene.
49. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorinated polypropylene and a chlorinated copolymer of ethylene and propylene.
50. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polyethylene and a chlorinated copolymer of ethylene and propylene.
51. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polypropylene and a chlorinated copolymer of ethylene and propylene.
52. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorinated polyethylene and a chlorosulfonated copolymer of ethylene and propylene.
53. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorinated polypropylene and a chlorosulfonated copolymer of ethylene and propylene.
54. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polyethylene and a chlorosulfonated copolymer of ethylene and propylene.
55. (New) The method of claim 43 wherein said chlorinated polyolefin is a mixture of chlorosulfonated polypropylene and a chlorosulfonated copolymer of ethylene and propylene.

56. (New) The method of claim 43 wherein said thermoplastic polyurethane is crosslinked in said matrix by dynamic vulcanization during extrusion of said hose.

57. (New) The method claim 43 wherein said crosslinking agent is selected from the group consisting of a peroxide, an isocyanate having a functionality of more than 2.0, a polyisocyanate having a functionality of more than 2.0, a polyamine containing two or more functional groups, a polyol containing two or more functional groups, and mixtures thereof.

58. (New) The method of claim 57 wherein said crosslinking agent is a polyamine.

59. (New) The method of claim 58 wherein said crosslinking agent is a diamine.

60. (New) The method of claim 43 further including the step of adding a cyanurate or an isocyanurate to said vulcanizate.